REMARKS

In accordance with the foregoing, various of the pending claims have been amended to clarify features of the invention and/or to improve form and new claims 14-21 have been added.

No new matter is presented.

Accordingly, approval and entry of the foregoing amended and new claims are respectfully requested.

STATUS OF CLAIMS

Claims 1-3, 5-8, and 11 are rejected.

Claims 9, 10, 12, and 13 are objected to but are indicated to be allowable if suitably rewritten to independent form. The indication of allowability is appreciated but the claims have not been so rewritten at this time in view of the following remarks, explaining the patentability of claims as now pending.

PENDING CLAIMS

Claims 1-3, and 5-21 are now pending herein.

REJECTION OF CLAIMS 1, 3, 5-6, AND 11 UNDER 35 USC 102(b) AS BEING ANTICIPATED BY S. HIRATA ET AL.

Claim 1

As clarified in independent claim 1, the width of each of the first and second discharge electrode parts is 120 μm or less. According to the present invention, the angular range of $30° \leq \theta \leq 60°$ is defined as a condition for causing the length of the edge part (T_a) to be a predetermined value in the case of the width (A) of the discharge electrode part (XT or T_a) being 120 μm or less. That is, when the width (A) is 120 μm or less with the pitch of partition walls (ribs) being constant, the gap (margin) (ξ) formed between the discharge electrode and its adjacent partition wall (rib) can be increased by causing the angle Θ, that 6the edge part (T_a) forms with respect to the direction in which the electrode extends, to fall within the angular range of $30° \leq \theta \leq 60°$. As a result, the gap (margin) (ξ) can be increased while securing a

discharge gap of desired dimensions, thereby achieving the effect that "the plasma display device can be driven with a low voltage and low power consumption while eliminating a problem that some of the first and second discharge electrode parts may overlap ribs, or partition walls, formed on the second substrate because of an error in positioning the first and second substrates" (pages 7, lines 18-24).

On the other hand, Hirata fails to disclose or suggest that the width of each of the first and second discharge electrodes parts is 120 μm or less. Nor does Hirata include the technical idea of the present invention of achieving the above-described effect by the condition that the angle Θ falls within the angular range of $30° \leq \theta \leq 60°$ so as to increase the gap (margin) (ξ) while securing a discharge gap of desired dimensions.

Claim 3/1

The grounds of rejection of claim 3/1, in the first paragraph on page 3 of the FINAL Office Action, are now based on the Fig. 1 structure of Hirata rather than the Fig. 8 structure as in the first Office Action; further, the Examiner no longer cites the 45° oblique angle as was cited in relation to Fig. 8 at page 3 of the first Office Action.

Based on the Merriam Webster definitions of "oblique" and "slant", copies attached as Exhibits A and B, respectively, it is submitted that the curved configuration of Hirata does not meet the limitation of the first and second edge parts extending "obliquely", as recited in claim 3.

Accordingly, it is submitted that claims 1, 3, and 5-6 are allowable over Hirata

Claim 11

As clarified in independent claim 11 as now amended, the first and second edge parts are defined by a plurality of straight lie segments.

By forming each of the first and second edge parts by a plurality of straight line segments, the following remarkable effects can be produced:

a) Ease of Manufacturing an Electrode of Straight Edge Parts, Versus Difficulty of Manufacturing an Electrode Defined by a Curved Line

An electrode pattern is formed by printing, exposure to light, or direct drawing by a

laser--and it is far easier to make a mask for printing or a program for a direct drawing apparatus for an electrode pattern including a single straight line or a plurality of straight line segments, than for an electrode pattern including a curved line.

Further, in the case of manufacturing an electrode including a single straight line or a plurality of straight line segments (hereinafter referred to as a straight line electrode), a direction to be managed in the manufacturing process is limited. Accordingly, compared with an electrode including a curved line (hereinafter referred to as a curved line electrode), the straight line electrode can be manufactured with far better accuracy than a curved line electrode.

b) Uniformity of the Dimension (Distance) Between Electrodes of a Straight Line Electrode Affords Improved Discharge Characteristics, Relative to a Curved Line Electrode

For the above-described manufacturing reasons, straight line electrodes are manufactured with a uniform dimension (distance) therebetween. Therefore, the distance between straight line electrodes includes less variation than that between curved line electrodes. If there is a great variation in the distance between electrodes (i.e., inter-electrode distance), a discharge always concentrates where the inter-electrode distance is short, so that the part of the electrode at which a discharge concentrates degrades faster than the other parts of the electrode (and continuous use of the electrode for a long period of time results in the sputtering away of the discharge surface of that part of the electrode).

c) The Straight Line Segments Afford Increased Lengths of Each Edge Part

Further, in the case of forming each of the first and second edge parts of a plurality of straight line segments, the effect of increasing the length of each edge part can additionally be produced.

In contrast to the straight line electrode structures in accordance with the present invention, Fig. 1 of Hirata merely shows X and Y electrodes whose edge parts are each defined by a curved line. Thus, Hirata fails to disclose or suggest that the first and second edge parts are defined by a plurality of straight line segments, and accordingly fails to achieve the above described effects afforded by the present invention. Accordingly, it is submitted that claim 11 is allowable over Hirata.

Rejection Of Dependent Claims 2, And 7-8 Under 35 USC 103(A) As Being Unpatentable Over Hirata As Applied To Claim 1

Claims 2 and 7-8 are dependent on independent claim 1. Accordingly, in view of the demonstrated patentability of claim 1 in the foregoing, it is submitted that claims 2 and 7-8, which inherit the limitations of claim 1, as well, define patentably over Hirata for the same reasons as claim 1 and further for the patentably distinguishing features set forth in each thereof, as well.

Amended Claims 9 And 12 And New Claims 14 And 15

Claims 9 and 14 depend from claim 1 and claims 12 and 15 depend from claim 11 and thus each inherit the patentably distinguishing limitations of their respective independent claims 1 and 11 and, accordingly, define patentably over Hirata for the same reasons as claim 1 and 11 distinguish and for the further features defined therein, as well.

The features recited in claims 9 and 12 correspond to the dimensions of the plasma display panel of Fig. 8 and the features recited in claims 14 and 15 correspond to the dimensions of the plasma display panel of Fig. 9.

NEW INDEPENDENT CLAIM 16 AND ITS DEPENDENT CLAIMS 17-20

Claim 16 recites that each of the first and second edge parts is of a rectilinear configuration so that a distance between the first and second edge parts is substantially uniform.

Hirata merely discloses bulging portions defined by respective curved lines. Hirata does not disclose or suggest the rectilinear character of the edge parts of the present invention.

Accordingly, it is submitted that claim 16 defines patentably, and is allowable, over Hirata.

Claim 17/16 further defines the rectilinear character of the edge part to be a single straight line or a plurality of straight line segments.

By forming each of the first and second edge parts with a rectilinear character (claim 16) or by a single straight line or a plurality of straight line segments (claim 17), the same remarkable effects as described above, with respect to claim 11 are achieved.

Claims 18-20 are directed to the embodiments of Figs. 8(9), 10, and 11, respectively and each depends from claim 17 and, accordingly, inherits the patentably distinguishing features recited in claim 17/16 as well as independent claim 16. Moreover, the further specific configuration recitations of dependent claims 18-20 further patentably distinguish over Hirata and, accordingly, are submitted to be allowable, as well.

NEW INDEPENDENT CLAIM 21

New independent claim 21 recites the first (second) edge part is inclined at a first (second) angle with respect to a first (second) direction in which the first (second) electrode extends, the first (second angle being determined so that a length of the first (second) edge part minimizes a discharge starting voltage and a drive current for sustaining discharge and is longer than a width of the first (second) discharge electrode part in the first (second) direction.

According to the present invention, "at the same time that the effective length, that is, the length actually related to a discharge, of the edge part of each of the first and second discharge electrode parts is maintained so as to minimize a discharge starting voltage and a drive current for sustaining the discharge, the width of each of the first and second discharge electrode parts, measured in the direction in which the first or second discharge electrode part extends, can be smaller than the effective length of the edge part" (page 6, lines 20-29).

As a result, the gap (margin) (ξ) can be increased while securing a discharge gap of desired dimensions, thereby achieving the effect that "the plasma display device can be driven with a low voltage and lower power consumption while eliminating a problem that some of the first and second discharge electrode parts may overlap ribs, or partition walls, formed on the second substrate because of an error in positioning the first and second substrates" (page 7, lines 18-24)

The above-described technical concept of achieving the above-described effect by defining the angle Θ between the length of the edge part and the width of the discharge electrode part according to the present invention is neither disclosed nor suggested in any of the cited references.

CONCLUSION

In accordance with the foregoing, it is respectfully submitted that the pending claims distinguish patentably over the references of record, taken singly or in any proper combination and, there being no other objections or rejections, that the application is in condition for allowance, which action is earnestly solicited.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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